

c) REMARKS

The claims are 12-16, 18-21, 23-27, 35, 38 and 45-55 with claims 12, 13, 18, 23, 35, 45 and 55 being independent. The claims have been amended to better define the intended invention and reconsideration thereof is expressly requested.

The Examiner has rejected the claims as obvious over the Schmitt '694 reference in view of either Ohta '182, Smith '545, Pollock '068, Moslehi 542, Poor '820 and further in view of either JP '129, Ohta '182 or JP '820. The grounds of rejection as set forth on page 2-8 of the Official Action are respectfully traversed.

Prior to addressing the grounds of rejection, Applicants wish to point out that support for the present amendments is found, inter alia, on page 3, lines 20 and 21 and page 4, line 25 to page 5, line 14.

Applicants wish to also briefly review certain key features and advantages of the present claimed invention. As disclosed on specification pages 3-5, a conductance adjusting valve is useful, inter alia, in obtaining a desired pressure in the chamber discharge region. As noted at the end of page 4, pressure in the discharge region can be monitored by a pressure gauge, the pressure signal transmitted to a controller of the conductance adjusting valve provided in the exhaust piping and the opening of the conductance adjusting valve adjusted to keep constant the pressure of the discharge region. As noted on page 7, when by-products exhausted from the processing chamber are conveyed to an exhaust pump, the by-products can adhere to the exhaust piping wall or the conductance adjusting valve. As affected areas of the exhaust pipe and valve are gradually increased, the exhaust conductance is gradually reduced. Occasionally, the desired discharge pressure cannot be maintained at all.

As set forth on specification page 36, line 6, by-product powder and other contaminants exhausted from the chamber can be prevented from depositing on the exhaust piping and the conductance adjusting valve so that previous problems with reduction in exhaust conductance or operational defects of the conductance adjusting valve can be alleviated. The results provided in specification Tables 9 and 15 illustrating the invention compared with Comparative Example 3, illustrate the effectiveness of the claimed trap in combination with the conductance adjusting valve in preventing problems with the exhaust piping and with the conductance adjusting valve in reducing or eliminating undesired powder and film formation.

The primary reference, Schmitt '649, fails to disclose a conductance adjusting valve for adjusting pressure in the process chamber, which is provided in the exhaust path or in the exhaust path piping between the trap and the exhaust means. As illustrated in Fig. 5 of Schmitt, outlet valve 505, bypass inlet valve 515 and purge valve 525 relate to operation of the cold trap and do not act as conductance adjusting valves for adjusting the pressure in the processing chamber. The differential pressure sensor 509 of Schmitt merely measures the pressure differential between hot trap 503 and the foreline 509.

The defects and deficiencies of Schmitt are not remedied by the secondary references cited.

Accordingly, none of the references, whether considered alone or combined, disclose or suggest the present claimed invention nor render it unpatentable.

Accordingly, it is respectfully requested that the claims be allowed and that the case be passed to issue.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

  
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